AMENDMENTS TO THE CLAIMS

This listing of Claims shall replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for providing antialiased memory access, said method comprising:

receiving a request to access a memory address; and

determining if the memory address is within a virtual frame buffer and, if so, performing the following:

transforming the memory address into at least one physical address within a frame buffer utilized for antialiasing, wherein said memory address is associated with a pixel, wherein said at least one physical address is associated with a plurality of subpixels ~~and generated using said virtual frame buffer~~, wherein said frame buffer is a single memory comprising data associated with said plurality of subpixels, wherein said plurality of subpixels correspond to at least one pixel of said virtual frame buffer, and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer; and

accessing data associated with a subpixel at the at least one physical address within the frame buffer.

2. (Previously Presented) A method as recited in Claim 1 further comprising accessing data at the memory address provided the memory address is not within said virtual frame buffer.

3. (Original) A method as recited in Claim 1, wherein the virtual frame buffer comprises a predefined memory range of a graphics memory.

4. (Original) A method as recited in Claim 1, wherein the memory address is received from a central processing unit (CPU).

5. (Previously Presented) A method as recited in Claim 4, further comprising providing the CPU with a pitch value of the frame buffer, wherein said pitch value comprises a distance in address units between two of said plurality of subpixels.

6. (Original) A method as recited in Claim 5, further comprising the CPU calculating a physical address within the frame buffer using the pitch value of the frame buffer as the pitch of the virtual frame buffer.

7. (Original) A method as recited in Claim 1, wherein said plurality of subpixels corresponding to said pixel of said virtual frame buffer have physical addresses that are nearby each other.

8. (Original) A method as recited in Claim 7, wherein said physical addresses are also based on a base physical address which corresponds to said memory address.

9. (Currently Amended) A method for providing antialiased memory read access, said method comprising:

receiving a request to read a memory address;

determining whether the memory address is within a virtual frame buffer;

reading data at the memory address when the memory address is outside the virtual frame buffer;

transforming the memory address into at least one physical address within a frame buffer utilized for antialiasing, wherein the memory address is within the virtual frame buffer and is associated with a pixel, wherein said at least one physical address is associated with a plurality of subpixels ~~and generated using said virtual frame buffer~~, wherein said frame buffer is a single memory comprising data associated with said plurality of subpixels, wherein said plurality of subpixels correspond to at least one pixel stored in said virtual frame buffer, and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer; and

reading a subpixel value at the at least one physical address within the frame buffer.

10. (Original) A method as recited in Claim 9, further comprising providing the subpixel value to a central processing unit (CPU).

11. (Previously Presented) A method as recited in Claim 10, further comprising providing the CPU with a pitch value of the frame buffer, wherein said pitch value comprises a distance between two of said plurality of subpixels.

12. (Original) A method as recited in Claim 11, further comprising the CPU calculating a physical address within the frame buffer using the pitch value of the frame buffer as the pitch of the virtual frame buffer.

13. (Original) A method as recited in Claim 9, wherein the virtual frame buffer includes a predefined memory range of a graphics memory.

14. (Original) A method as recited in Claim 9, wherein said plurality of subpixels corresponding to said pixel of said virtual frame buffer have physical addresses that are nearby each other and are also based on a base physical address which corresponds to said memory address.

15. (Currently Amended) A computer system comprising a processor coupled to a memory, said computer system further comprising at least one peripheral device coupled to said processor, wherein said memory comprises instructions for implementing a method of providing antialiased memory access, said method comprising:

receiving a request to read a memory address;

determining whether the memory address is within a virtual frame buffer;

reading data at the memory address when the memory address is outside the virtual frame buffer;

transforming the memory address into at least one physical address within a frame buffer utilized for antialiasing, wherein the memory address is within the virtual frame buffer and is associated with a pixel, wherein said at least one physical address is associated with a plurality of subpixels ~~and generated using said virtual frame buffer~~, wherein said frame buffer is a single memory comprising data associated with said plurality of subpixels, wherein said data associated with said plurality of subpixels comprises respective subpixel values for each of said plurality of subpixels, wherein said plurality of subpixels correspond to at least one pixel stored in said virtual frame buffer, and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer;

reading the plurality of subpixel values at the at least one physical address within the frame buffer; and

combining the subpixel values to generate a pixel value for the specific pixel.

16. (Original) A system as recited in Claim 15 wherein said method further comprises providing the pixel value to a central processing unit (CPU).

17. (Original) A system as recited in Claim 15, wherein said combining comprises blending the subpixel values into a single color value.

18. (Previously Presented) A system as recited in Claim 16, wherein said method further comprises:

providing the CPU with a pitch value of the frame buffer, wherein said pitch value comprises a distance between two of said plurality of subpixels; and

the CPU calculating a physical address within the frame buffer using the pitch value of the frame buffer as the virtual frame buffer pitch.

19. (Original) A system as recited in Claim 15, wherein the virtual frame buffer includes a predefined memory range of a graphics memory.

20. (Original) A system as recited in Claim 15, wherein said plurality of subpixels corresponding to each pixel of said virtual frame buffer have physical addresses that are nearby each other and are also based on a base physical address which corresponds to a memory address of said pixel of said virtual frame buffer.

21. (Currently Amended) A method for providing antialiased memory write access comprising:

receiving a request to write a data value to a memory address;

determining whether the memory address is within a virtual frame buffer;

transforming the memory address into at least one physical address within a frame buffer utilized for antialiasing, wherein the memory address is within the virtual frame buffer and is associated with a pixel, wherein said at least one physical address is associated with a plurality of subpixels ~~and generated using~~

~~said virtual frame buffer~~, wherein said frame buffer is a single memory comprising data associated with said plurality of subpixels for each pixel of said virtual frame buffer, ~~and~~ wherein said at least one physical address relates to a plurality of subpixels corresponding to a pixel of said virtual frame buffer that is located at said memory address, and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer; and

writing the data value to the at least one physical address within the frame buffer.

22. (Original) A method as recited in Claim 21, further comprising writing the data value to the memory address when the memory address is outside the virtual memory buffer.

23. (Currently Amended) A method as recited in Claim 21, wherein the virtual ~~memory~~ frame buffer ~~includes~~ comprises a predefined memory range of a graphics memory.

24. (Cancelled)

25. (Previously Presented) A method as recited in Claim 21, further comprising:

providing a CPU with a pitch value of the frame buffer, wherein said pitch value comprises a distance between two of said plurality of subpixels; and

the CPU calculating a physical address within the frame buffer using the pitch value of the frame buffer as the pitch of the virtual memory buffer.

26. (Cancelled)

27. (Original) A method as recited in Claim 21, wherein said plurality of subpixels corresponding to each pixel of said virtual frame buffer have physical addresses that are nearby each other and are also based on a base physical address which corresponds to a memory address of said pixel of said virtual frame buffer.

28. (Currently Amended) A method for reading a frame buffer comprising:

receiving an address corresponding to a pixel, said address associated with a virtual frame buffer ~~operable to map~~ for mapping a pixel address into a plurality of subpixel addresses;

transforming the received address into multiple subpixel addresses, wherein each of said multiple subpixel addresses comprises a mapped subpixel address;

reading at least two subpixels from the frame buffer using at least two of the multiple subpixel addresses, wherein the frame buffer comprises a plurality of pixels, wherein each pixel comprises a plurality of subpixels, and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer; and

blending the at least two subpixels to create a pixel value for said pixel.

29. (Previously Presented) A method as recited in Claim 28 further comprising:

supplying the pixel value as if it were a pixel value at the received address.

30. (Currently Amended) A method for writing a frame buffer comprising:

receiving an address and a pixel value corresponding to a pixel, said address associated with a virtual frame buffer ~~operable to map~~ for mapping a pixel address into a plurality of subpixel addresses;

transforming the received address into multiple subpixel addresses, wherein each of said multiple subpixel addresses comprises a mapped subpixel address; and

writing the pixel value to a frame buffer as multiple subpixel values using the multiple subpixel addresses, wherein said frame buffer comprises a plurality of pixels wherein each pixel comprises a plurality of subpixels, and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer.

31. (Previously Presented) A method as recited in Claim 30 further comprising:

modifying at least one of said multiple subpixel values in said frame buffer based upon a pixel value of a surrounding pixel.

32. (Currently Amended) A method for supplying a virtual frame buffer to a computer program, said method comprising:

supplying a base address and buffer size information to the computer program, the base address and the buffer size information corresponding to a virtual frame buffer;

receiving an address in the virtual frame buffer from the computer program;

transforming the received address into at least one subpixel address, the subpixel address being an address into a frame buffer which is a single memory storing data of a plurality of subpixels corresponding to each pixel of said virtual frame buffer, ~~wherein the subpixel address is generated using the virtual frame buffer~~ and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer;

reading at least two subpixels from the frame buffer using the subpixel address;

blending the at least two subpixels to create a pixel value;

supplying the created pixel value to the computer program as if it were a pixel value located at the received address in the virtual frame buffer; and

wherein the computer program does not directly access the frame buffer.

33. (Original) A method as recited in Claim 32, wherein the computer program is an operating system.

34. (Original) A method as recited in Claim 32, wherein the computer program is a software driver.

35. (Original) A method as recited in Claim 32, wherein the computer program is an application program.

36. (Currently Amended) A method as recited in Claim 32, wherein the ~~base address of the~~ virtual frame buffer ~~is the same as a base address of the frame buffer~~ comprises a predefined memory range of a graphics memory.

37. (Original) The method as recited in Claim 36, further comprising supplying a pitch to the computer program, the pitch corresponding to the virtual frame buffer and being equal to a pitch of the frame buffer, wherein the base address of the virtual frame buffer is the same as a base address of the frame buffer.

38. (Original) The method as recited in Claim 32 wherein said plurality of subpixels corresponding to each pixel of said virtual frame buffer comprise nearby physical memory addresses within said frame buffer.

39. (Currently Amended) A computer system comprising a processor coupled to a memory, wherein said memory comprises instructions for implementing a method of supplying a virtual frame buffer to a computer program, comprising:

supplying a base address and buffer size information to the computer program, the base address and the buffer size information corresponding to a virtual frame buffer;

receiving an address in the virtual frame buffer from the computer program;

receiving a pixel value;

transforming the received address into at least one subpixel address, the at least one subpixel address being an address in a frame buffer, wherein said at least one subpixel address is associated with a plurality of subpixels ~~and generated using said virtual frame buffer~~, wherein said frame buffer is a single memory comprising said plurality of subpixels corresponding to each pixel of said virtual frame buffer and wherein said plurality of subpixels comprise nearby physical addresses, and wherein a base address of said frame buffer is the same as a base address of said virtual frame buffer;

writing the pixel value as at least two subpixels values into the frame buffer using the subpixel address; and

wherein the computer program does not directly access the frame buffer.

40. (Original) A system as recited in Claim 39, wherein the computer program is an operating system.

41. (Original) A system as recited in Claim 39, wherein the computer program is a software driver.

42. (Original) A system as recited in Claim 39, wherein the computer program is an application program.

43. (Currently Amended) A system as recited in Claim 39, wherein the ~~base address of the~~ virtual frame buffer ~~is the same as a base address of the frame buffer~~ comprises a predefined memory range of a graphics memory.

44. (Previously Presented) A system as recited in Claim 39, wherein said method further comprises supplying a pitch to the computer program, the pitch corresponding to the virtual frame buffer and being equal to a pitch of the frame buffer, wherein the base address of the virtual frame buffer is the same as a base address of the frame buffer.